Manitoba Agriculture

Information Update

GUIDELINES FOR ESTIMATING SHEEP PRODUCTION COSTS BASED ON A 250 EWE FLOCK

DATE: February, 1989

This publication is intended to provide a format and a set of guidelines for determining costs of production on a sheep farm flock enterprise. The production costs included in this enterprise budget are estimates and not figures obtained from a formal survey of sheep operations in the province. These figures should therefore not be interpreted as a cost study of the sheep industry in Manitoba.

The budget estimates current costs of production based on a number of assumptions which are clearly defined in the supporting pages. These assumptions were made based on breeding stock management practices and facilities commonly recommended for use on this size of enterprise in Manitoba. Good management is assumed, namely that balanced rations are fed, livestock are on a flock health program and handling facilities are included. Adjustments in the cost figures will be necessary where individual flock productivity and performance levels differ from those listed.

The guidelines can be useful for comparison purposes. Comparison of costs at different levels of production can be made with other farms; the farm over time; or comparing the plan with the actual production at the end of the planning period.

The budget may be adjusted by putting your figures in the appropriate column. However, accurate, up-to-date production and financial records are essential for the effective application of these guidelines to an individual operation. Each sheep producer is encouraged to determine his own costs of production based on his own inputs, pasture program and management.

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Sheep Farm Flock Production Costs

A. OPERATING COSTS	$/Ewe/Year	$/Lamb/Yr Marketed	Your Farm
Number of	Ewes: 250	Lambs: 419	
1. Feed Costs:			
1.01 Ewe High Performance Ration	$ 14.50	$ 8.65	
1.02 Ewe Medium Performance Ration	14.55	8.68	
1.03 Ewe Maintenance Ration	6.75	4.03	
1.04 Ram Ration	0.89	0.53	
1.05 Lamb Creep Ration	6.16	3.68	
1.06 Lamb Grower/Finisher Ration	60.50	36.10	
1.07 Salt-Mineral Mix	2.46	1.47	
Total Feed Cost	$105.81	$ 63.14	
2. Other Operating Costs:			
2.01 Straw	6.24	3.72	
2.02 Vet. Medicine & Supplies	4.11	2.45	
2.03 Maintenance & Repairs	17.73	10.58	
2.04 Hydro, Water & Telephone	1.62	0.97	
2.05 Death Loss	2.40	1.43	
2.06 Manure Removal	1.00	0.60	
2.07 Insurance	2.03	1.21	
2.08 Flock Replacement	12.16	7.26	
2.09 Office Supplies	1.80	1.07	
2.10 Pasture Operating Cost	14.80	8.83	
2.11 Stabilization Premium	2.35	1.40	
Subtotal Operating Costs	$172.05	$102.66	
2.11 Operating Interest	12.04	7.19	
TOTAL OPERATING COSTS	**$184.09**	**$109.85**	
B. FIXED COSTS			
3. Depreciation			
3.01 Buildings	$ 6.34	$ 3.78	
3.02 Machinery & Equipment	9.86	5.88	
3.03 Pasture Improvements	1.17	0.70	
4. Investment			
4.01 Buildings	$ 7.01	$ 4.18	
4.02 Machinery & Equipment	6.03	3.60	
4.03 Pasture Land	7.12	4.25	
4.04 Pasture Improvements	1.17	0.70	
4.05 Breeding Flock	8.98	5.36	
TOTAL FIXED COSTS	**$ 47.68**	**$ 28.45**	
TOTAL OPERATING AND FIXED COSTS	**$231.77**	**$138.30**	
5. Labour	$ 20.00	$ 11.93	
TOTAL COST OF PRODUCTION	**$251.77**	**$150.23**	
Breakeven Price Required To Cover: (Marketed Lamb Weight)	kg. (45)	lbs (99)	
o Operating Costs	$ 2.44	$ 1.11	
o Operating & Fixed Costs	3.07	1.39	
o Total Cost of Production	3.34	1.52	
6. Wool Value Per	ewe: $8.51	lamb: $5.08	

ASSUMPTIONS

SHEEP PRODUCTION COSTS

1. This budget outlines the cost of production for a sheep flock operation.

2. Buildings and Equipment are valued at new cost.

3. All feed is valued at Fair Market Value.

4. Manure removal contracted out.

5. Replacement ewe lambs are valued at Fair Market Value.

TABLE FLOCK PROFILE

	Total	Your Farm
Number of Ewes	250	
Number of Rams	8	
Lamb Crop (born alive)	180 %	
Ewe Mortality Rate (%)	2 %	
Lamb Mortality Rate - Pre-Weaning	5 %	
Lamb Mortality Rate - Post-Weaning	2 %	
Lambs Marketed	419	
Average Lamb Market Weight (kg)	45 kg	

TABLE FIXED COSTS

Depreciation (straight line)	
Useful Life:	
Buildings	20 years
Machinery & Equipment	10 years
Tractor & Loader	10 years
Truck	10 years
Salvage Value (% of original cost)	
Buildings	5 %
Machinery & Equipment	10 %
Tractor & Loader	10 %
Truck	10 %
Percent Capital Allocation to Sheep - Tractor	50 %
Percent Capital Allocation to Sheep - Truck	50 %
Investment Interest Rate (%)	10 %

CAPITAL INVESTMENT

		Original Value	Your Farm
Buildings			
Pole Barn (36' X 144') with Lambing/Shearing room (24' X 36')		$26,100	_____
Wintering Lots		$ 5,700	_____
Well		$ 1,575	_____
Total Building Cost		**$33,375**	_____
Equipment & Improvements			
Water System (3 waterers & installation)		$ 1,975	_____
Miscellaneous Machinery & Equipment: - Includes Wagon, Misc. Tools, Handling Facilities, Lambing Panels, etc.		$ 1,650	_____
Total Machinery & Equipment Cost		**$ 3,625**	_____
Sub-Total		$37,000	_____
Tractor & Loader (full amount)	$32,500		_____
Truck (full amount)	$15,000		_____
Tractor & Loader - Amount allocated to Sheep Flock		$16,250	_____
Truck - Amount allocated to Sheep Flock		$ 7,500	_____
Total Buildings & Equipment Investment		**$60,750**	_____
Breeding Flock			
Value of Replacement Ewes		$21,250	_____
Value of Replacement Rams		$ 1,200	_____
Total Breeding Flock Investment		**$22,450**	_____
Total Capital Investment		**$83,200**	_____

WORKSHEET
SHEEP PRODUCTION COSTS

A. OPERATING COSTS — Your Farm

1. Feed Costs:

1.01 Ewe High Performance Ration

Assumed to be required for 10 weeks: 4 last weeks of gestation and 6 weeks of lactation.

A. Grain

	70	days/year	_____
X	0.70	kg barley/ewe/day	_____
X	$135.00	/tonne barley	_____
÷	1,000	kilograms/tonne	_____
=	**$ 6.62**	**/ewe/year**	_____

B. Forage

	70	days/year	_____
X	2.25	kg alfalfa brome hay/ewe/day	_____
X	$ 50.00	/tonne alfalfa brome hay	_____
÷	1,000	kilograms/tonne	_____
=	**$ 7.88**	**/ewe/year**	_____

1.02 Ewe Medium Performance Ration

Assumed to be required for 12 weeks: 4 last weeks flushing, 2 weeks for early gestation and 6 weeks for mid-gestation.

A. Grain

	84	days/year	_____
X	0.45	kg barley/ewe/day	_____
X	$135.00	/tonne barley	_____
÷	1,000	kilograms/tonne	_____
=	**$ 5.10**	**/ewe/year**	_____

B. Forage

	84	days/year	_____
X	2.25	kg alfalfa brome hay/ewe/day	_____
X	$ 50.00	/tonne alfalfa brome hay	_____
÷	1,000	kilograms/tonne	_____
=	**$ 9.45**	**/ewe/year**	_____

1.03 Ewe Maintenance Ration — Your Farm

Assumed to be required for 8 weeks: the balance of the period when the ewe is confined.

	60	days/year
X	2.25	kg alfalfa brome hay/ewe/day
X	$ 50.00	/tonne of alfalfa brome hay
÷	1,000	kilograms/tonne
=	**$ 6.75**	**/ewe/year**

1.04 Ram Ration

Assume that grain supplement will be fed only during the breeding season.

A. Grain

	60	days/year
X	0.45	kg barley/ram/day
X	$135.00	/tonne barley
÷	1,000	kilograms/tonne
=	$ 3.65	
X	8	rams
÷	250	ewes
=	**$ 0.12**	**/ewe/year**

B. Forage

	214	days/year
X	2.25	kg alfalfa brome hay/ewe/day
X	$ 50.00	/tonne alfalfa brome hay
÷	1,000	kilograms/tonne
=	$ 24.08	
X	8	rams
÷	250	ewes
=	**$ 0.77**	**/ewe/year**

1.05 Lamb Creep Ration

	15	kg creep feed/lamb
X	428	lambs weaned
X	$240.00	/tonne commercial feed cost
÷	1,000	kilograms/tonne
÷	250	ewes
=	**$ 6.16**	**/ewe/year**

Lambs weaned = Lambs born alive less pre-weaned mortality.
Pre-Weaned Mortality = 5%

1.06 Lamb Grower/Finisher Ration — Your Farm

	120	kg grain/lamb
X	419	lambs marketed
X	$135.00	/tonne grain cost
÷	1,000	kilograms/tonne
÷	250	ewes
=	**$ 27.15**	**/ewe/year**

	50	kg protein supplement/lamb
X	419	lambs marketed
X	$398.00	/tonne commercial supp. cost
÷	1,000	kilograms/tonne
÷	250	ewes
=	**$ 33.35**	**/ewe/year**

Lambs marketed = Lambs born alive less lamb mortality.
(Lamb mortality = pre-weaned plus post weaned mortality)
lamb mortality = 7%

1.07 Salt-Mineral Mix

A. Ewes

	5	kg salt-min./ewe/year
X	$ 0.36	/kg
=	**$ 1.80**	**/ewe/year**

B. Lambs

	1	kg salt-min./lamb/year
X	$ 0.36	/kg
=	$ 0.36	
X	419	lambs marketed
÷	250	ewes
=	**$ 0.60**	**/ewe/year**

C. Rams

	5	kg salt-min./ram/year
X	$ 0.36	/kg
X	8	rams
÷	250	ewes
=	**$ 0.06**	**/ewe/year**

2. **Other Operating Costs:** — Your Farm

2.01 Straw

A. Ewes

	0.20	tonnes/ewe/year
X	$ 30.00	/tonne
=	$ 6.00	/ewe/year

B. Rams

	0.25	tonnes/ram/year
X	$ 30.00	/tonne
X	8	rams
÷	250	ewes
=	$ 0.24	/ewe/year

2.02 Veterinary Medicine & Supplies

A. Lamb Medication

	$ 0.10	/lamb Clostridial Vaccine
	$ 0.25	/lamb Internal Parasiticide
+	$ 0.50	/lamb Miscellaneous Medicine
=	$ 0.85	/lamb
X	419	lambs
÷	250	ewes
=	$ 1.42	/ewe/year

B. Ewe and Ram Medication

	$ 0.05	/ewe or ram Clostridial Vaccine
	$ 1.50	/ewe or ram Internal Parasiticide
+	$ 0.50	/ewe or ram Miscellaneous Medicine
=	$ 2.05	/ewe or ram/year
X	258	ewes & rams
=	528.90	
÷	250	ewes
=	2.12	/ewe/year

C. Flock Health Program

	$ 35.00	/hour charge
X	4	hours
=	$140.00	
÷	250	ewes
=	$ 0.56	/ewe Professional Services

	$ 0.25	/km charge
X	40	kilometres (round trip)
X	2	visits
÷	250	ewes
=	$ 0.08	/ewe Transportation Costs

Total Veterinary, Medicine & Supplies — Your Farm

	$ 1.42	Lamb Medication
	$ 2.05	Ewe Medication
+	$ 0.64	Flock Health Program
=	$ 4.11	/ewe/year

2.03 Maintenance & Repairs

A) Equipment & Buildings

	$ 500	equipment/year
	$ 750	buildings/year
+	$ 750	improvements/year
=	$2,000	
÷	250	ewes
=	$ 8.00	/ewe/year

B) Tractor

fuel:	0.50	hours/day
X	10	litres/hour
X	214	days/year
X	$ 0.40	/litre
=	$428.00	fuel
other: +	$400.00	oil, repairs, maintenance
=	$828.00	
÷	250	ewes
=	$ 3.31	/ewe/year

C) Truck

fuel:	12,000	km/year
X	23	litres/100 km
÷	100	
X	$ 0.40	/litre
=	$ 1,104	fuel
other: +	$500.00	oil, repairs, maintenance
=	$1,604	
÷	250	ewes
=	$ 6.42	/ewe/year

Total Maintenance & Repairs

	$ 8.00	equipment & buildings
	$ 3.31	Tractor Costs
+	$ 6.42	Truck Costs
=	$ 17.73	/ewe/year

2.04 Hydro, Water and Telephone		Your Farm
10,150	Number of Kilowatt Hours/Year	
X $ 0.040	/Kilowatt	
÷ 250	ewes	
= $ 1.62	/ewe/year	

2.05 Death Loss		
$120.00	/ewe	
X 2%	death loss	
= $ 2.40	/ewe/year	

2.06 Manure Removal		
$250.00	Annual Removal Cost	
÷ 250	ewes	
= $ 1.00	/ewe/year	

2.07 Insurance

A. Building and Equipment

$60,750	Bldg. & Equipment Investment	
X $ 0.60	Cost/$100 Capital	
÷ 100		
÷ 250	ewes	
= $ 1.46	/ewe/year	

B. Breeding Flock

$22,450.00	Herd Investment	
X $0.50	Cost/$100 Capital	
÷ 100		
÷ 250	ewes	
= $0.45	/ewe/year	

C. Additional Coverage

$30.00	Additional Coverage for Liability	
÷ 250	ewes	
= $ 0.12	/ewe/year	

Total Insurance Costs

$1.46	Bldg. & Equipment Insurance	
+ $0.45	Herd Insurance	
+ $0.12	Additional Coverage for Liability	
= $2.03	/ewe/year	

2.08 Flock Replacement — Your Farm

A. Ewe Replacement

	250	ewes
X	15	% replacement rate
=	38	number of replacement/year
	$120.00	/replacement ewe
-	$ 50.00	/cull ewe
=	$ 70.00	
X	38	number of replacement/year
÷	250	ewes
=	**$ 10.64**	**/ewe/year**

B. Ram Replacement

	8	rams
÷	4	years of service
=	**2**	**rams replaced/year**
	$250.00	replacement ram value
-	$ 60.00	cull ram value
=	$190.00	
X	2	rams replaced/year
=	$380.00	
÷	250	ewes
=	**$ 1.52**	**/ewe/year**

2.09 Office Supplies

	$450.00	Total Office Expenses
÷	250	ewes
=	**$ 1.80**	**/ewe/year**

2.10 Pasture Operating Costs

A. Marginal Land

	$ 20.00	/hectare Fert. & Chem.
	$ 5.00	/hectare Maintenance
	$ 10.00	/hectare Other Operating
+	$ 2.00	/hectare Property Taxes
=	$ 37.00	/hectare
X	100	Number of Hectares
=	**$3,700**	

Your Farm

B. Crop Land

	$ 0.00	/hectare Fert. & Chem.
	$ 0.00	/hectare Maintenance
	$ 0.00	/hectare Other Operating
+	$ 0.00	/hectare Property Taxes
=	$ 0.00	/hectare
X	0	Number of Hectares
=	**$ 0.00**	

Pasture Operating Cost

	$3,700	Marginal Land
+	$0.00	Crop Land
=	$3,700	
÷	250	ewes
=	**$14.80**	**/ewe/year**

2.11 Stabilization Premium

	$ 1.40	/lamb marketed
X	419	lamb marketed
÷	250	ewes
=	**$ 2.35**	**/ewe/year**

2.12 Operating Interest

Operating interest is charged on one half of the subtotal operating costs.

	$172.05	Subtotal Operating Costs
÷	2	
X	14	% operating interest rate
=	**$ 12.04**	**/ewe/year**

B. FIXED COSTS

3. Depreciation:

Depreciation costs are based on:
(New Cost - Salvage Value) divided by Useful Life.

3.01 Buildings:

	$33,375.00	Original Value
	-$1,668.75	Salvage Value
÷	20	years useful life
÷	250	ewes
=	**$ 6.34**	**/ewe/year**

3.02 Machinery & Equipment — Your Farm

A. Equipment

$ 3,625.00	Original Value	
- $ 362.50	Salvage Value	
÷ 10	Useful Life (Years)	
÷ 250	ewes	
= **$ 1.31**	**/ewe/year**	

B. Tractor and Loader

In original value use allocated amount, not total value.

$16,250	Original Value	
- $ 1,625	Salvage Value	
÷ 10	years useful life	
÷ 250	ewes	
= **$ 5.85**	**/ewe/year**	

C. Truck

In original value use allocated amount, not total value.

$ 7,500	Original Value	
- $ 750	Salvage Value	
÷ 10	years useful life	
÷ 250	ewes	
= **$ 2.70**	**/ewe/year**	

Total Machinery & Equipment Depreciation

$ 1.31	Machinery and Equipment	
$ 5.85	Tractor & Loader	
+ $ 2.70	Truck	
= **$ 9.86**	**/ewe/year**	

3.03 Pasture Improvements

Depreciation is calculated only on the fence. (no salvage value)

A. Marginal Land

7.20	length of fence	
X $ 815	/km	
= $5,868	fence cost	
÷ 20	years use	
÷ 250	ewes	
= **$ 1.17**	**/ewe/year**	

B. Crop Land

			Your Farm
	0.00	length of fence	
X	0.00	/km	
=	0.00	fence cost	
÷	0	years use	
÷	250	ewes	
=	$ 0.00	/ewe/year	

4. Investment:

Investment Cost is Calculated:
(New Cost + Salvage Value) ÷ 2 X Investment Interest Rate

4.01 Buildings

	$33,375	Original Value
+	$1,668.75	Salvage Value
÷	2	
X	10	% Investment Interest Rate
÷	250	ewes
=	$ 7.01	/ewe/year

4.02 Machinery & Equipment

A. Equipment

	$ 3,625	Original Value
+	$ 362.50	Salvage Value
÷	2	
X	10	% Investment Interest Rate
÷	250	ewes
=	$ 0.80	/ewe/year

B. Tractor and Loader

	$ 16,250	Original Value
+	$ 1,625	Salvage Value
÷	2	
X	10	% Investment Interest Rate
÷	250	ewes
=	$ 3.58	/ewe/year

C. Truck

	$ 7,500	Original Value
+	$ 750	Salvage Value
÷	2	
X	10	% Investment Interest Rate
÷	250	ewes
=	$ 1.65	/ewe/year

Total Machinery & Equipment Investment — Your Farm

	$ 0.80	Machinery and Equipment
	$ 3.58	Tractor & Loader
+	$ 1.65	Truck
=	$ 6.03	/ewe/year

4.03 Pasture Land

A. Marginal Land

	100.00	hectares/ewe
X	$178.00	/hectare
X	10	% Investment Interest Rate
÷	250	ewes
=	$ 7.12	/ewe/year

B. Crop Land

	0.00	hectares/ewe
X	$ 0.00	/hectare
X	10	% Investment Interest Rate
÷	250	ewes
=	$ 0.00	/ewe/year

4.04 Pasture Improvements

Fence (no Salvage Value)

A. Marginal Land

	$ 5,868	fence cost
÷	2	
X	10	% Investment Interest Rate
÷	250	ewes
=	$ 1.17	/ewe/year

B. Crop Land

	$ 0.00	fence cost
÷	2	
X	10	% Investment Interest Rate
÷	250	ewes
=	$ 0.00	/ewe/year

4.05 Breeding Flock

A. Ewe

	$ 85.00	average market value/ewe
X	10	% Investment Interest Rate
=	$ 8.50	/ewe/year

B. Ram		Your Farm
$150.00	average market value/ram	
X 8	rams	
X 10	% Investment Interest Rate	
÷ 250	ewes	
= $ 0.48	/ewe/year	

5. Labour

2	hours/ewe/year	
X $ 10.00	/hour	
= $ 20.00	/ewe/year	

6. Wool Value

967.5	kg. Total wool production	
X $ 2.20	/kg	
=$2,128.50	Total Wool Income	
÷ 250	ewes	
= $ 8.51	/ewe/year	

FOR MORE INFORMATION SEE YOUR LOCAL MANITOBA AGRICULTURE OFFICE.

If you would like to run a number of alternatives on computer, please contact the local Manitoba Agricultural Office.

Budget
Prepared By:

G. A. Therrien, Chief
Farm Management Section

A. M. (Tig) Shafto
Provincial Sheep Specialist